

WHAT IS CLAIMED IS:

1. A water treatment device comprising:  
a filter device, in turn comprising: a first filter, immersed in a fluid containing objects of removal; and a second filter, formed of a gel film adsorbed onto the surface of the first filter; and  
a pair of electrodes, removing nitrogen compounds from the fluid by an electrochemical method.
2. The device of Claim 1, wherein the electrodes are installed in a first tank in which the fluid is contained, and the filter device is installed in a second tank in which the fluid that has been treated by the electrodes is contained.
3. The device of Claim 1, wherein the filter device and the electrodes are installed in the same tank.
4. The device of Claim 1, wherein the filter device is installed in a first tank in which the fluid is contained, and the electrodes are installed in a second tank in which the fluid that has been treated by the filter device is contained.
5. The device of Claim 1, wherein filtration of colloidal microparticles contained in the fluid is carried out by the filter device, and nitrogen compounds in the fluid are removed by the electrodes.
6. The device of Claim 1, wherein the metal material forming the cathode of the electrodes is an electric conductor containing an element of group 1b or group 2b or group 8 of the periodic table or has an element of the same group coated onto an electric conductor.
7. The device of Claim 1, wherein the filter device furthermore comprises: a pump, drawing in the fluid via a first pipe; and a second pipe, taking the filtrated fluid out of the tank from the pump; and concentrates the objects of removal of the fluid in the tank.

8. The device of Claim 1, wherein the filter device comprises: a frame; the first filter, having its periphery supported by the frame; and the second filter, adsorbed onto the surface of the first filter.

9. The device of Claim 1, wherein the objects of removal comprise a CMP slurry.

10. The device of Claim 1, wherein the fluid is a solution containing indium or an indium compound.

11. A water treatment method, wherein microparticle components of objects of removal are removed by filtering a fluid through a gel-form second filter formed on the surface of a first filter, and nitride compounds contained in the fluid are removed by an electrochemical method.

12. The method of Claim 11, wherein the microparticle components are removed after treating the nitrogen compounds.

13. The method of Claim 11, wherein the nitrogen compounds are treated after removing the microparticle components.

14. The method of Claim 11, wherein the microparticle components are removed at the same time as treating the nitrogen compounds.

15. The method of Claim 11, wherein in the electrochemical method, a pair of electrodes is immersed in the fluid and then electricity is applied across the electrodes to treat the nitrogen compounds.

16. The method of Claim 11, wherein the nitrogen compounds are treated by the electrochemical method after adding halogen ions or a compound containing a halogen element to the fluid.

17. The method of Claim 16, wherein coagulated particles of the microparticles are formed by the electrochemical method and the coagulated particles are filtered by the second filter.

18. The method of Claim 11, wherein the gel film is formed by the microparticle components of colloidal form.

19. The method of Claim 11, wherein the objects of removal is a CMP slurry.

20. The method of Claim 11, wherein the fluid is a solution containing indium or an indium compound.

21. A water treatment device comprising:

an electrode, containing a metal from which are eluted coagulating ions that congeal with objects of removal contained in a fluid; and

a filter device, filtering the coagulated objects of removal in the fluid.

22. A water treatment device comprising:

an electrode, which, by the elution of coagulating ions that congeal with objects of removal, forms coagulates that are greater in diameter than the objects of removal; and

a filter device, filtering the coagulates.

23. The device of Claim 21 or Claim 22, wherein the filter device comprises: a first filter, immersed in the fluid containing the objects of removal; and a second filter, formed of a gel film adsorbed onto the surface of the first filter.

24. The device of Claim 23, wherein the gel film is formed from coagulates of the objects of removal.

25. The device of Claim 21 or Claim 22, wherein an element of group 8 of the periodic table or an electric conductor, containing an element of group 8, or a material, with which an element of the same group or an electric conductor containing an element of the same group is coated onto an electric conductor, is employed as the material of the electrode.

26. The device of Claim 21 or Claim 22, wherein iron is employed as the material of the electrode.

27. The device of Claim 21 or Claim 22, wherein the electrode is installed in a first tank in which the fluid is contained and the filter device is installed in a second tank in which the fluid that has been treated by the electrode is contained.

28. The device of Claim 21 or Claim 22, wherein the filter device and the electrode are installed in the same tank.

29. The device of Claim 21 or Claim 22, wherein the filter device furthermore comprises: a pump, drawing in the fluid via a first pipe; and a second pipe, taking the filtrated fluid out of the tank from the pump; and concentrates the objects of removal of the fluid in the tank.

30. The device of Claim 21 or Claim 22, wherein the filter device comprises: a frame; the first filter, having its periphery supported by the frame; and the second filter, adsorbed onto the surface of the first filter.

31. The device of Claim 21 or Claim 22, wherein nitrogen compounds contained in the fluid are removed by electrochemical actions of the electrode.

32. A water treatment method, wherein objects of removal contained in a fluid are coagulated by the elution of coagulating ions and the objects of removal that have coagulated are filtered by a filter device.

33. A water treatment method, wherein coagulates that are greater in diameter than objects of removal contained in a fluid are formed by the elution of coagulating ions and the coagulates are filtered by the filter device.

34. The method of Claim 32 or Claim 33, wherein a gel-form second filter, formed of the coagulates, is formed on the surface of a first filter and filtration is carried out by the second filter.

35. The method of Claim 32 or Claim 33, wherein halogen ions or a compound containing a halogen ion are or is added to the fluid.

36. The method of Claim 32 or Claim 33, wherein nitrogen compounds contained in the fluid are treated by an electrochemical method.

37. The method of Claim 32 or Claim 33, wherein the coagulations are iron-silica polymer compounds.